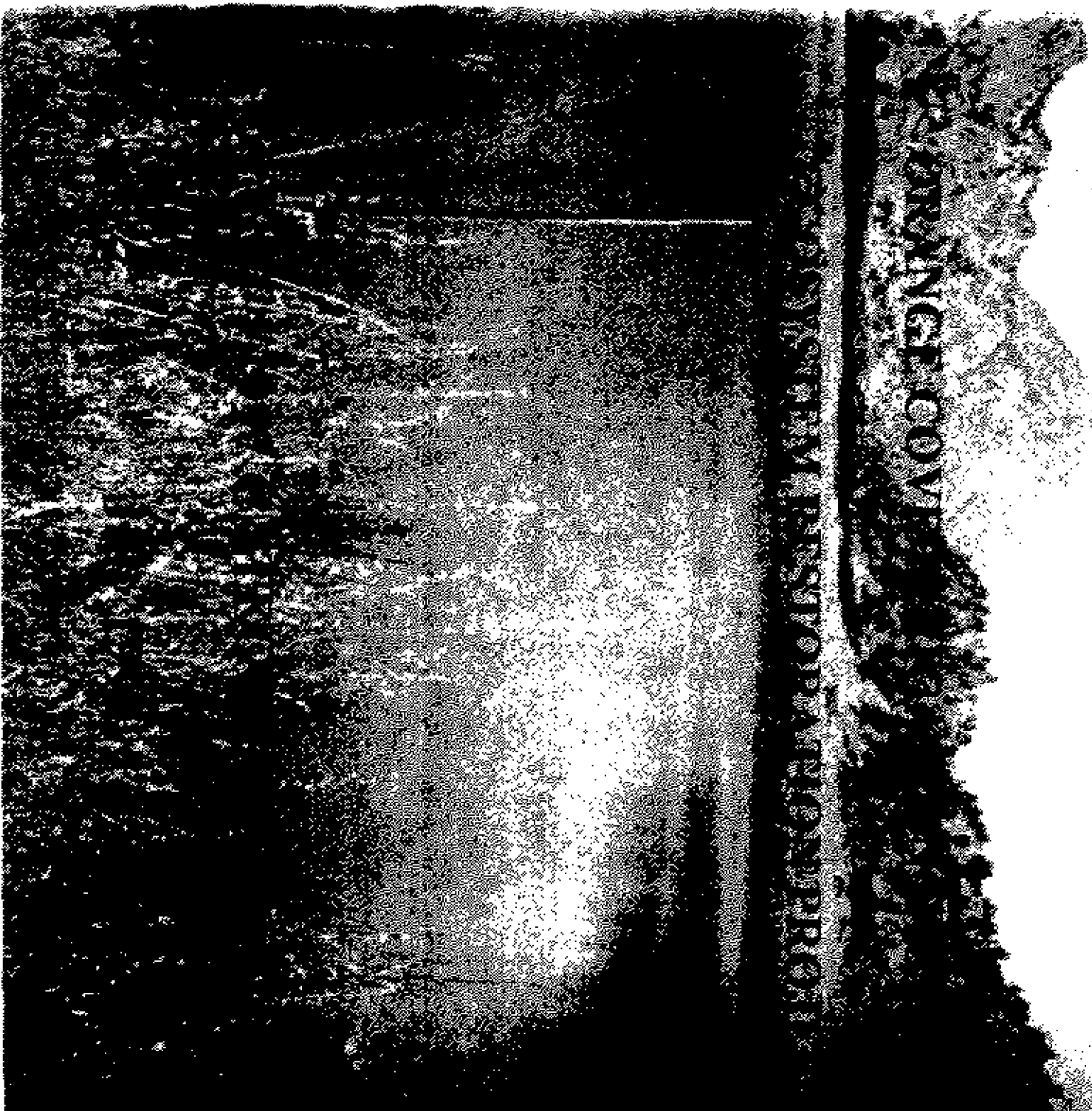


JUL 28 1997

PROPOSAL

ORANGE COUNTY

SYSTEMS SUPPORT PROGRAM



ADDENDUM

Orange Cove Irrigation District Ecosystem Restoration Project

1. Section IV, page 5, Cost should be \$558,950 which includes 10 years of O & M for vernal pools.

2. Section IV, page 6 and the second page of the Executive Summary should show as follows:

Phase I	<u>OCID</u>	<u>Category III</u>	<u>Total Cost</u>
Construction	\$108,200	\$240,800	\$349,000
Vegetation		24,950	24,950
O & M / year(10 yrs.)	7,700	8,850	<u>165,500</u>
Total Phase I			\$539,450
Phase II			<u>19,500</u>
Project Total			\$558,950

FL 052

I. EXECUTIVE SUMMARY

- a. Project Title: **ORANGE COVE IRRIGATION DISTRICT
ECOSYSTEM RESTORATION PROJECT**

Applicant: **Orange Cove Irrigation District**

- b. Project Description and Primary Biological/Ecological Objectives

The Orange Cove Irrigation District Ecosystem Restoration Project is a project to enhance reservoirs and other intermittent wet area for migratory birds and other wetland species. The project will attempt to serve as a pilot project.

The San Joaquin Valley used to contain millions of acres of wetlands. Over time, most of the wetlands and related habitat has been destroyed with the development of intense agriculture in the Valley. The Orange Cove Irrigation District recognizes a great opportunity to enhance its water regulating and manage for migratory birds and other wetland species.

- c. Approach /Task/Schedule

The District has hired MHI Wolfe and Associates to develop plans and specifications for revegetation and management for enhance purposes. The work will be broken into two phases where the first phase will concentrate on completing District Regulating reservoirs and planting for migratory birds. Phase two will concentrate on other wetland type including vernal pools and intermittent streams.

The schedule For Phase I would be to start work in September of this year, if funding is approved, and complete that work by the end of April, 1998. It is not anticipated, at this time, that Phase II work would begin until Phase I is completed.

- d. Justification of Project Funding by CALFED

This project will contribute to fulfilling three of the implementation objectives of the Ecosystem Restoration Program Plan (ERPP) which are to "restore basic hydraulic conditions to reactivate and maintain ecological process" for the Central Valley, to "improve flood plains along rivers and streams" and to contribute to the improvement of the Bay-Delta hydraulics. All the Central Valley watershed systems, including the San Joaquin River, its rivers and intermittent tributaries, and the intermittent tributaries to the Tulare Lake Basin, and even the Kern River basin and its intermittent tributaries, are all a part of the hydrologic system which feeds the Bay-Delta.

- e. Budget Costs and Third Party Impacts

Budgeted cost are as follows:

Phase I	<u>OCID</u>	<u>Category III</u>
Construction	\$108,200	\$240,800
Vegetation		<u>24,950</u>
Total	<u>\$108,200</u>	<u>\$265,750</u>
Phase II		\$19,500

There are no adverse third party impacts anticipated. The District has a very broad support for this project starting from the landowner the project(s) will be developed on or adjacent to.

f. Applicants Qualifications

The Orange Cove Irrigation District is staffed with qualified people to handle construction work via formal contract or District staff. The people most directly involved are listed below:

James C. Chandler, Engineer-Manager, a professional engineer with 32 years of experience in the profession. Oversees all technical and administrative work for the District. About 14 years of professional career has been associated with construction and contract administration.

Sean P. Geivet, Operations Engineer-Manager, has served with the District since 1991, mostly in construction or project work, handling both formal contracts and construction work performed by the District.

Brett G. Gray, Engineer, has been with the District since 1993 handling both design work and construction work.

Robert T. Ramirez, Accounting Manager(CPA), directs all accounting operations for District.

MH WOLFE and Associates ENVIRONMENTAL CONSULTING INC.

Certified woman-owned business

Certified small business

Marcia H. Wolfe - Plant and wildlife ecologist with over 25 years experience in disturbed land reclamation and revegetation design, implementation and monitoring, including baseline surveys and research. Twelve years experience in California endangered species and environmental permitting and regulation compliance. Assist with permitting, baseline studies, develop revegetation plans. Design and supervise monitoring.

g. Monitoring and Data Evaluation

A Full plan for monitoring assessing and reporting the results is planed as part of both phases of this project. It is the intent of this to serve as a pilot project for other similar opportunities along the east side of the San Joaquin Valley.

h. The project has tremendous local support as can be attested to by the number of participants that have signed onto the project with the District.

ORANGE COVE IRRIGATION DISTRICT

ECOSYSTEM RESTORATION PROJECT

Applicant: Orange Cove Irrigation District
Mail: P.O. Box 308
Orange Cove, Ca. 93646
Phone: (209) 626-4461
FAX: (209) 626-4463
E-Mail: ocid@psnw.com

Principle Investigators: James C. Chandler
Marcia Wolfe

Type of Organization: Irrigation District
Tax Exempt

Tax Identification No.: 94-2501594

**Technical and
Financial Contacts:** James C. Chandler
Marcia Wolfe

**Participants/Collaborators
in Implementation:** Orange Cove Irrigation District
Marcia Wolfe and Associates
California Department of Fish and Game
California Waterfowl Association
U.S. Bureau of Reclamation
Navelencia Resource Conservation District

RFP Project Group Type: Acquisition, Construction, Management,
Monitoring, Assessment and Reporting

III PROJECT DESCRIPTION

a. Project Description and Approach

The Orange Cove Irrigation District Ecosystem Restoration Project (Project) is an enhancement of reservoirs and other intermittent wet areas for migratory birds and other wetland species. The District has or will acquire land, construct reservoirs, develop and implement a vegetative management plan, monitor, assess and report benefits from the Project. The Project will serve as an excellent pilot project for replacement of habitat for migratory birds along the Eastside of the San Joaquin Valley (Valley) which has largely been altered or destroyed with the introduction and proliferation of farming.

b. Location and/or geographic boundaries of project

The Orange Cove Irrigation District (District) is located along the western foothills of the Sierra Nevada Mountain range in Fresno and Tulare Counties. The District is located within watersheds that are tributaries to the Tulare Lake Basin, thence, to the Bay-Delta. The eastern boundaries of the District are adjacent to rangeland and the western boundaries are on the valley floor adjacent to other cropland. The District contains 28,000 acres of highly productive cropland which is predominantly developed to citrus orchards (see enclosed map).

c. Expected benefit(s)

This project will contribute to fulfilling three of the implementation objectives of the Ecosystem Restoration Program Plan (ERPP) which are to "restore basic hydraulic conditions to reactivate and maintain ecological process" for the Central Valley, to "improve flood plains along rivers and streams" and to contribute to the improvement of the Bay-Delta hydraulics. All the Central Valley watershed systems, including the San Joaquin River, its rivers and intermittent tributaries, and the intermittent tributaries to the Tulare Lake Basin, and even the Kern River basin and its intermittent tributaries, are all a part of the hydrologic system which feeds the Bay-Delta. As much of the system is intermittent, in average and above average years of snow melt and precipitation restoration of groundwater, maintenance of alluvial hydraulic connectivity and overland riparian and flood flows become very important throughout the system. Although its importance remains unrecognized by the ERPP, the overflow of the Kern River and southern San Joaquin intermittent tributaries, Buena Vista and Kern lakes into the San Joaquin and ultimately Bay-Delta, play an important role in the long-term wetting, flushing and sustainability of the Bay-Delta and Central Valley lake, stream and wetland systems. Stressors, species, habitats and proposed restoration actions for this project are summarized in Table 1.

This project addresses a portion of the San Joaquin River watershed below Friant Dam and is fully within the delineated geographic range of the Ecosystem Restoration Plan Program. This project is one of several planned San Joaquin Valley demonstration projects which will address hydrographic alterations throughout then entire watershed. The San Joaquin Valley has lost

Table 1
Summary of pertinent stressor, species, habitat and planned project restoration actions

Stressors	Habitat	Species	Restoration Action
1. Hydrographic alteration	<u>Phase I</u>	<u>All Phases</u>	<u>Phase I</u>
2. Flood plain changes hydrological isolation of flood plain/marsh plain	• wetland	• waterfowl	• re-regulation or management of water to provide appropriate fall/winter waterfowl habitat and minimize drought impacts
3. Physical isolation of flood plain/marsh plain	• riparian	• shorebirds	• construction of reservoirs
	• seasonal wetland (vernal pool)	• sandhill crane	• restoration of intermittent natural channels
	• aquatic	• riparian wildlife guild	• revegetation of berms and uplands with native species for waterfowl brood habitat
4. Undesirable species interactions	<u>Phase II</u>	• Vernal pool fairy shrimp	• planting of large trees and shrubs for raptors and neotropical migrants
5. Land use and grazing	• shaded riverine aquatic (Sand Creek, Wahtoke Creek)	• tiger salamander	• environmental education
		• spiny sepaled button celery	• recreational opportunities (birding, hunting?)
		• spadefoot toad	• grazing management implemented to protect enhanced areas
		• Swainson's hawk	• fencing
		• bald eagle	<u>Phase II</u>
		• white-tailed kite	• Develop CRMP/watershed management
		• neotropical migratory bird guild	• Sand Creek riparian enhancement
		<u>Phase II</u>	• exotic weed removal
		• red legged frog	• recharge/flood and riparian overflow (in cooperation with Tulare County)
		• western pond turtle	• Regulate water in years possible to provide brood habitat

c. Expected benefits(s) (continued)

more wetland habitat than any other part of the Great Central Valley, and used to support vast flocks of migratory waterfowl, shorebirds and other species. However, most of these lands have been drained and converted to agriculture and urbanized. Yet the least amount of restoration and habitat enhancement has been initiated in this region.

Current practice by most is generally to "clean farm" levees, recharge and equalizing basins or allow natural invasion by exotics. If all water districts, or even if a majority of water districts and their growers enhanced their canals, ditches, and recharge and equalizing basins by re-regulating flows, increasing

conjunctive use, revegetation and appropriate management for the affected waterfowl, shorebird and related species, the entire biological physiognomy and health of the agro-ecosystem would be improved, not only hydrologically, but also for waterfowl, shorebirds, seasonal wetland species and upland species and their ecosystems.

Potential for restoration of the historic Tulare Lake Basin on a large scale is limited because of high agricultural value. Consequently, the alternative is to enhance other areas. One way to do that is enhance the thousands of ponds and canals scattered throughout the valley. This project will set an example and will create 12.5 acres of new aquatic habitat suitable for waterfowl and shorebirds and will result in the enhancement of 6.7 acres of wetland and creation of ten acres of new riparian habitat. In addition, seasonal vernal pool habitat will be increased several fold. This pool already supports listed Vernal pool fairy shrimp and other species of concern identified in Table 1. Existing fragmented intermittent drainages associated with site Nos. 3 and 6 will be enhanced to the extent of their length.

In Phase II, with the development of a Coordinated Resource Management Planning Program (CRMP), ten acres of riparian habitat would be enhanced directly. Exotic aquatic species would be removed and/or control initiated on a watershed scale. Secondary benefits will evolve with the elevation of public awareness of watershed, hydrologic and habitat enhancements, spreading to adjacent watersheds. Site specific environmental interpretive displays can be developed at a public assessable location describing the project. Public recreational options, such as birding, will be increased with the presence of habitat.

This project is related to a variety of others and is consistent with the Riparian Habitat Joint Venture, pursuing goals to restore, protect and enhance our fragmented riparian habitat, and with the North American Waterfowl Plan. In addition, it complements conservation of seasonal vernal pool habitat such as the nearby Stone Corral Vernal Pool Ecological Reserve. But even more important perhaps, is the development of partnerships and the associated CRMP, which will involve not only the applicant, Orange Cove Irrigation District, but will begin to involve the general public. This type of leadership will result in a domino effect over time of numerous similar and related efforts. But it takes one to jump-start others. The project has short term and long term benefits with the ability to contribute to minimizing limiting factors for waterfowl and shorebirds, in addition to other species of concern, such as the red legged frog, western pond turtle, tiger salamander and spiny sepaled button celery and other species which are not reflected as priority species for the Category III funding, but which are important relative to the San Joaquin Valley multi-species recovery efforts, regional county Habitat Conservation Plans in progress (Kern and Tulare counties), and the implementation of the Long Range Conservation Plan under the Friant Long Term Contract Biological Opinion. In Phase II, reintroduction of the redlegged frog and western pond turtle may also enhance use of the site for a mitigation bank. Raising of the western pond turtles by school children for reintroduction also is an outreach program with the capabilities to educate not only children, but their parents about the factors threatening our local and regional ecosystems and how the health of the entire Bay-Delta and Central Valley ecosystems are interconnected. This project also would dovetail with the Friant Water Users Authority (FWUA) ongoing vegetation management program which is experimenting with the use of native perennial species for weed

and pest control, erosion and habitat enhancement. This project, which is a partnership among the Friant Water Users Authority, Department of Pesticide Regulation, California Department of Fish and Game, US Bureau of Reclamation and the Tulare County Farm Bureau, is currently developing a broad public outreach program, involving private landowners, in addition to agency partners. This project would be able to further demonstrate the effectiveness of the use of revegetation with native perennial species which has not been previously done in the San Joaquin Valley to any extent.

Relative to CALFED non-ecosystem benefits, this project, in combination with others planned, will contribute to helping to re-establish the overall system integrity. The reservoirs will also contribute to increased water use efficiency, and increased power efficiency, connecting the benefits of this project to yet another water-related issue. In addition, any time areas are revegetated versus being maintained in a clean farmed condition as they are now, water quality of both surface and ground waters will be improved.

d. Background and Biological/Technical Justification

As described under expected benefits, the need for the project is significant. Existing conditions are that most of the agro-ecosystem not cultivated is maintained in a "clean farmed" condition, which is conducive to only a few species, many of which are pests, e.g. California ground squirrel. Other areas are vegetated by exotic invasive species.

Other possible approaches for a demonstration project of which this part, which could result in large scale long-term changes, are not socially acceptable or economically feasible at this time.

The expected benefits of this project are founded on observations of existing species occupying the fragmented, small pieces of wetland and aquatic habitats present, records of species present in a few ponds which are not clean farmed and the historical ecology of the area. Tulare County used to be covered vastly by scattered vernal pool systems, which provide the best depth and type of habitat for waterfowl and shorebirds because they are intermixed with grassland and other habitats capable of providing food supplies. The benefits of the project will be long-term with proper site management and monitoring. Two of the largest pond areas are directly adjacent to undeveloped grassland areas, similar to pre-disturbance conditions. Population sizes of species associated with the project can be anticipated to reflect natural climatic cycles, particularly for those which migrate. The project will have the ability to ameliorate adverse climatic impacts with water management in certain cases, probably mostly for the resident species. The conjunctive use should enhance the ecosystem function and process. Basin-wide implementation of this type of project can be expected to result in increased water management flexibility, and likely increased water availability throughout the watershed, especially in drought years.

This is a continuing project. Some of the basins are already built, although vegetation enhancement is necessary, some wetland species have naturally invaded previously constructed sites. The amount spent to date on this project is \$2.4MM. Documentation of work to date may be found described in previous environmental assessments developed for the program.

e. Proposed Scope of Work

Identify appropriate incremental phases (e.g. feasibility, design, pre-construction, construction, pilot/demonstration, etc.) for completing the entire project. Identify the specific tasks and deliverables to conduct/implement actions for the project phase(s) being proposed for CALFED funding. Identify nature, content and timing of technical and financial reports to be provided in support of performance of the project.

f. Monitoring and Data Evaluation

Project partners, the California Waterfowl Association, California Department of Fish and Game, US Bureau of Reclamation, and Friant Water Users Authority, will be involved in the planning and evaluation of project monitoring. Vegetation, bird, aquatic and hydrologic conditions are planned to be monitored in accordance with required permits. The contract biologists have also obtained species expert input relative to proposed work (Dr. Mark Jennings, Dr. Dick Andrews and Dr. David Germano). Quarterly bird monitoring and annual vegetation monitoring are planned.

Data collection can be compared with similar work ongoing and being developed at the FWUA district locations for water recharge basin and equalizing reservoir enhancement and restoration. In addition, we participate in the San Joaquin River Basin Quarterly Monitoring meetings and in the San Joaquin River Monitoring program where data and issues are discussed on a regular basis with regional biologists and resource managers.

g. Implementability

Permission and cooperation of affected and participating landowners have already been obtained. The project will comply with all pertinent local, state and federal laws and regulations. The aid of the US Bureau of Reclamation, Army Corp of Engineers and California Department of Fish and Game are/or have been elicited. CEQA documentation has already been initiated. Endangered species collecting permits and a Section 1600 notification will be necessary. A section 7 consultation will occur with the ACOE permit. Outreach efforts have established a wide variety of partners. As the CRMP is developed in Phase II, many more partners, participants and cooperators are anticipated. A Safe Harbors agreement will be developed in conjunction with this project, if not negotiated separately for all FWUA districts through their existing Biological Opinion.

IV. COST AND SCHEDULE TO IMPLEMENT

The estimated cost to complete the implementation of this project is ^{558,950 w/10yr O&M} ~~\$479,700~~. The cost are broken down as follows and shown in more detail on the following "Summary of Cost and Schedule" worksheet.

Summary of Cost and Schedule *

Task	Reservoir #1		Reservoir #2		Reservoir #3		Reservoir #4		Reservoir #5		Reservoir #6		Totals
	(To Be Constructed)		(Constructed)		(To Be Constructed)		(Constructed)		(Constructed)		(To Be Constructed)		
Phase I													
	District	Category III	District	Category III	District	Category III	District	Category III	District	Category III	District	Category III	
Environmental Assessment	\$3,000		\$2,500		\$27,800		\$2,500		\$1,200		\$3,000		\$40,000
Investigation/Prelim. Design	\$8,000		\$12,000		\$14,700		\$8,000		\$5,500		\$5,000		\$53,200
Land Acquisition	\$17,500		\$17,500		\$59,200		\$17,500		\$8,750		\$17,500		\$137,950
Contract Document/ Constr. Admin.		\$11,250		\$4,200		\$1,500						\$8,750	\$36,700
Construction		\$75,000		\$28,000		\$7,000	\$61,000		\$43,000			\$58,300	\$341,300
Vegetative Contract & Admin.													
Calif. Waterfowl Assoc.		xxx		xxx		xxx		xxx		xxx		xxx	\$1,200
CDFG		xxx		xxx		xxx		xxx		xxx		xxx	\$4,000
Marcia Wolfe & Assoc.		xxx		xxx		xxx		xxx		xxx		xxx	\$18,750
Water Supply Pipeline & pumping plants	\$188,500		\$313,800		\$538,500		\$817,000		\$164,800		\$355,500		\$2,177,800
Expenditure to Date (OCID)	\$188,500		\$377,800		\$581,000		\$708,000		\$223,250		\$380,500		\$2,437,050
Additional Expense (OCID)	\$28,500				\$59,200						\$20,500		\$108,200
Category III (Construction)		\$86,250		\$32,200		\$7,500						\$67,050	\$240,800
Grand Total	\$217,800	\$86,250	\$390,600	\$32,200	\$640,200	\$7,500	\$708,000	\$0	\$223,250	\$0	\$381,000	\$67,050	\$2,736,000
Grand Total to District													\$2,488,250
Grand Total to Category III													\$247,750
													(Construction & Vegetation)
O&M (Annual Cost)													
Water (ocid)													\$7,700
Monitoring & Reporting (Marcia Wolfe & Assoc.)													\$8,250
Phase II (Category III)													
Revegetation Contract (10 new acres)													\$9,000
Enhance 35 additional acres													\$10,500
Total Phase II													\$19,500
Legend													
Paid by District													
To Be Paid													
Schedule	September	October	November	December	January	February	March	April					
Phase I													
Complete EA work													
Investigation/Prelim Design													
Land Acquisition**													
Contract Prep.													
Bid													
Construction													
Vegetation													
Phase II	To be scheduled following the completion of Phase I												

2,811,000

2,545,250

1/yr - (10 yrs)

* Phase I work would be performed as a single project

** Needs execution of final agreement

Phase I	<u>OCID</u>	<u>Category III</u>
Construction	\$108,200	\$240,800
Vegetation		<u>24,950</u>
Total	\$108,200	\$265,750
<i>0 \$ M/yr</i> Phase II	<i>7,700</i>	<i>8,850 - 10 yrs</i> \$19,500

b. Schedule Milestones

The schedule of milestones are shown on the "Summary of Cost and Schedule". Payments for work will be made at the end of the milestone unless otherwise defined by a specific contract.

c. Third Party Impacts

There is a potential to increase undesirable weed growth in water users fields. However, most landowners within the District manage their groves around a non-till practice currently. Therefore, no negative impacts are expected. There are expected to be very positive impacts from the increased habitat and wildlife to the area.

V. APPLICANTS QUALIFICATIONS

The Orange Cove Irrigation District is staffed with qualified people to handle construction work via formal contract or District staff. The people most directly involved are listed below:

James C. Chandler, Engineer-Manager, a professional engineer with 32 years of experience in the profession. Oversees all technical and administrative work for the District. About 14 years of professional career has been associated with construction and contract administration.

Sean P. Geivet, Operations Engineer-Manager, has served with the District since 1991, mostly in construction or project work, handling both formal contracts and construction work performed by the District.

Brett G. Gray, Engineer, has been with the District since 1993 handling both design work and construction work.

Robert T. Ramirez, Accounting Manager(CPA), directs all accounting operations for District.

The District is very progressive wherein it has completely revamped its water distribution system with major emphasis placed on water and energy conservation, the development of hydroelectric power, and, to exist and operate in the most ecologically sound manner possible. Funding in the amount of \$22 million for these major improvements were made available via privately financed Certificates of Participation. All cost for this rehabilitation project are paid for by the landowners within the District. The new "state of the art" system incorporates premium efficiency pumps and motors, oversized pipelines to provide great flexibility in water delivery rates for optimization of on-farm water management practices, and, flowmeters which accurately measures the water delivered to the water user. The water distribution system will incorporate six regulating reservoirs which further compliment water and energy conservation. In turn, the reservoirs offer an excellent opportunity to ecologically enhance the area. About 90 percent of the work was accomplished by staff hired by the District with the remaining 10 percent performed under formal contract. In addition, the District constructed a hydroelectric facility at Friant Dam wherein most of the work was performed under formal contract.

MH WOLFE *and Associates* ENVIRONMENTAL CONSULTING INC.

Certified woman-owned business

Certified small business

Marcia H. Wolfe - Plant and wildlife ecologist with over 25 years experience in disturbed land reclamation and revegetation design, implementation and monitoring, including baseline surveys and research. Twelve years experience in California endangered species and environmental permitting and regulation compliance. Assist with permitting, baseline studies, develop revegetation plans. Design and supervise monitoring.

References: Dick Moss - Friant Water Users Authority/(209) 562-6305
John Juette - J&M Land Restoration/(805) 872-7039

Dr. Larry Stromberg - Wetland scientist with over 50,000 acres of delineations and 20+ years experience in design, construction and restoration of vernal pools, wetlands and perennial marshes. Prepares biological assessments and mitigation plans. Assist with monitoring, revegetation design and baseline studies.

References: Doug Bower - Santa Rosa City Schools/(707) 528-5381
Alan Strachan - Courtside Village Joint Venture/(707) 575-3103

Dr. Dick Arnold-Invertebrate biologist experienced throughout the wester United States in insect and invertebrate monitoring.

References: Dr. Barbara Leitner/(520) 353-8300

VI. COMPLIANCE WITH STANDARD TERMS AND CONDITIONS

The Orange Cove Irrigation District is a public entity and is applying for a public works contract. Submitted herewith are Items 8 & 11 "nondiscrimination Compliance Statement" and "Noncollusion Affidavit".

